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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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5150-45000

7618

7590

12/23/2003

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EXAMINER

KISS, ERIC B

ART UNIT

PAPER NUMBER

2122

DATE MAILED: 12/23/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/629,653

Applicant(s)

VAZQUEZ ET AL.

Examiner

Eric B. Kiss

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-59 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27-59 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8. 6) ☐ Other: _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 14, 2003, has been entered. Claims 27-59 are pending.

Drawings

2. New corrected drawings are required in this application because Applicant's replacement drawings do not comply with the requirements of 37 CFR 1.121 (revised; effective date: July 30, 2003), which requires that any replacement sheet must be identified in the top margin as "Replacement Sheet". Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

It is noted, however, that Applicant's apparent changes to the drawings, along with the arguments presented in the submission filed November 14, 2003, would appear to resolve all outstanding drawing objections, pending receipt of acceptable replacement drawings complying

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with 37 CFR 1.121, as described above. Accordingly, the outstanding drawing objections are maintained and reproduced below.

3. Figures 4-11 and 22 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Response to Amendment

4. Applicant's amendments to claims 27 and 39-41 appropriately address the rejections of claims 27-46 under 35 U.S.C. §112, second paragraph, based on indefiniteness, as detailed in the previous office action. Accordingly, these rejections are withdrawn in view of Applicant's amendments.

Response to Arguments

5. Applicant's arguments filed November 14, 2003, have been fully considered but they are not persuasive.

6. Applicant's arguments on pages 11-14 with respect to the rejections of claims 47, 49-51, and 53-59 under 35 U.S.C. §102(e), fail to comply with 37 CFR 1.111(b) because they amount to

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a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

7. In response to Applicant's arguments on page 14, in the second paragraph under the heading "§ 103 Rejections", the Examiner submits as further evidence supporting the statement of Official Notice, the following document: Neil Thacker, "Introduction," 1998 (hereinafter *Thacker*). *Thacker* discloses a tool to be used as a rapid general purpose image processing algorithm development tool (see the first sentence). This tool further provides an "Undo" function to reverse the most recent stack manipulation (programmatic change; see the second-to-last sentence). Thus, it is submitted that, even in the narrowly-focused field of image processing algorithm development, functionality to undo programmatic changes would have been obvious to one of ordinary skill in the art at the time the invention was made.

8. In response to Applicant's arguments beginning on page 14, in the fourth paragraph under the heading "§ 103 Rejections", continuing through the first paragraph on page 15, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

9. In response to Applicant's arguments on page 16, in paragraphs 2-4, , the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly

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suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). The rejection in question relies upon the teachings of *Pizano et al.* to show that it has been known and shown to be desirable to determine an average amount of time required to execute an image processing algorithm in order to provide benchmark data for the algorithm. Further, the Examiner submits the following document containing a definition of the term “image processing”: “image processing from FOLDOC,” 1995. This document explains that Image processing is used in image recognition and computer vision (see the second paragraph). Thus, it is submitted that the image recognition of *Pizano et al.* is, in fact, and image processing algorithm.

10. In response to Applicant’s arguments beginning on page 16, in the last paragraph, through page 17, paragraph 4, *Blowers et al.* disclose an interactive development environment comprising a set of COM controls represented by icons (see, for example, col. 10, line 64, through col. 11, line 18; and Fig. 5). The table in col. 13 represents interfaces that each of the COM controls (or any user-added COM controls) may use to provide enhanced interaction between the particular control and the overall system (see, for example, col. 13, lines 4-10). As illustrated in Fig. 9, the information methods may be used to display the time a particular control requires to execute (see, for example, the “Sequence 33 Results” pane in the bottom-right quarter of the illustrated display window, as well as the total time the overall developed system requires to execute (see, for example, the bottom left corner of the illustrated display window, indicating that a particular sequence was executed in 135 ms). The time taken for an image processing

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algorithm to execute provides information indicating a rate at which the image processing algorithm is capable of processing images. Note that this information is consistent with the TimeTaken information method provided by the COM interface.

11. In response to Applicant's arguments beginning in the last paragraph of page 17, continuing through the third paragraph of page 18, with respect to the rejections of claims 38-40 under 35 U.S.C. §103(a), fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

12. As per Applicant's arguments beginning on page 18, in paragraph 4, continuing through the end of page 20, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim Rejections - 35 USC § 102

13. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

14. Claims 47, 49-51, and 53-59 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,298,474 to Blowers et al.

As per claims 47 and 51, Blowers et al. disclose performing one or more image processing functions on an image in response to user input (see column 2, lines 47-55); recording the one or more image processing functions, wherein the one or more image processing functions define an image processing algorithm (task sequence generation; see column 8, line 61 through column 9, line 15); executing the image processing algorithm in response to user input, wherein said executing the image processing algorithm comprises executing executable code associated with each of said image processing functions defining the algorithm (executing the sequence; see column 9, lines 16-25); measuring and displaying information indicating an amount of time that elapses during said executing the image processing algorithm (see, for example, Fig. 9, along with the description of “TimeTaken” in the table of column 13); and programmatically changing the image processing algorithm in order to reduce the execution time of the image processing algorithm (see, for example, the “Stop Result By” and “Stop Result Count” fields in the “Blob Properties” dialog box of Fig. 7).

As per claims 49, 50, 53 and 54, Blowers et al. further disclose programmatically changing one or more parameters, including changing a number of pixels used, in at least one image processing function in the algorithm (see, for example, Figs. 7 and 8; and column 9, lines 7-15).

As per claims 55-59, Blowers et al. disclose performing a plurality of image processing functions on an image in response to a user input (see column 2, lines 47-55); recording the plurality of image processing functions, wherein the one or more image processing functions define an image processing algorithm (task sequence generation; see column 8, line 61 through column 9, line 15); receiving user input specifying a plurality of images and executing the image

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processing algorithm on each of said plurality of images (executing the sequence; see column 9, lines 16-25); measuring and displaying information indicating an amount of time that elapses during said executing the image processing algorithm (see, for example, Fig. 9, along with the description of “TimeTaken” in the table of column 13); displaying information indicating suggested changes to the image processing algorithm in order to reduce the execution time of the image processing algorithm; receiving user input requesting the suggested changes to be made automatically; and programmatically making the indicated changes to the image processing algorithm by changing parameter values associated with image processing functions (see, for example, the “Stop Result By” and “Stop Result Count” fields in the “Blob Properties” dialog box of Fig. 7).

Claim Rejections - 35 USC § 103

15. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

16. Claims 48 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,298,474 to Blowers et al.

As per claims 48 and 52, Blowers et al. disclose such a method (see disclosure applied above to claims 47 and 51) but fail to expressly disclose receiving a user input to undo changes. However, Official Notice is taken that it has been well known and practiced to incorporate “undo” commands into user interfaces of programs that involve user-editable features. One

example of this practice can be found within the MICROSOFT WORD software for word processing, in which the "Edit" menu provides an "Undo" command for undoing user-initiated actions (as well as some automatic actions such as automatic formatting). Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to modify the method of Blowers et al. to include an undo command selectable by a user for undoing changes made to the image processing algorithm. One would be motivated to do so gain the advantage of allowing the user to correct unintentional changes.

17. Claims 27-30, 33-44, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,298,474 to Blowers et al. in view of U.S. Patent No. 5,293,429 to Pizano et al.

As per claims 27 and 41, Blowers et al. disclose performing a plurality of image processing functions on an image in response to a user input (see column 2, lines 47-55); recording the plurality of image processing functions, wherein the one or more image processing functions define an image processing algorithm (task sequence generation; see column 8, line 61 through column 9, line 15); receiving user input specifying a plurality of images and executing the image processing algorithm on each of said plurality of images (executing the sequence; see column 9, lines 16-25); measuring and displaying information indicating an amount of time that elapses during said executing the image processing algorithm (see, for example, Fig. 9, along with the description of "TimeTaken" in the table of column 13). Blowers et al. fail to expressly disclose determining an average amount of time required to execute the image processing algorithm. However, Pizano et al. teach determining an average amount of time required to

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execute an image processing algorithm by using a plurality of input images (see column 11, lines 34-42). Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to modify the method of Blowers et al. to include determining an average amount of time required to execute an image processing algorithm by using a plurality of input images as per the teachings of Pizano et al. One would be motivated to do so to be able to benchmark an image processing system and produce a meaningful estimate of system capabilities.

As per claims 28 and 42, Blowers et al. further disclose displaying information indicating a rate at which the image processing algorithm is capable of processing images, based on the amount of time that elapses during said executing the image processing algorithm (see, for example, Fig. 9, along with the description of "GetMinimumTime" in the table of column 13). Blowers et al. fail to expressly disclose basing the rate on the average execution time. However, as described above, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to modify the method of Blowers et al. to include determining an average amount of time required to execute an image processing algorithm by using a plurality of input images as per the teachings of Pizano et al. One would be motivated to do so to be able to benchmark an image processing system and produce a meaningful estimate of system capabilities.

As per claims 29 and 43, Blowers et al. further disclose determining the minimum time required for executing the image processing algorithm (see the description of "GetMinimumTime" in the table of column 13) but fail to expressly disclose displaying this information. However, Official Notice is taken that it has been known to include within

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benchmark results, in addition to empirical results for a particular execution, minimum/maximum results to establish comparative statistics for a particular result. Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to further modify the method of *Blowers et al.* to include displaying the minimum time required to execute the image processing algorithm. One would be motivated to do so to provide the user with additional, readily-available information to provide a more complete benchmark of the developed program.

As per claims 30 and 44, *Blowers et al.* further disclose displaying time information corresponding to each execution iteration in a structure display (see, for example, the rolling results window in Fig. 9).

As per claims 33-35 and 46, *Blowers et al.* disclose measuring an amount of time that elapses during said executing the image processing algorithm for each of a plurality of image processing categories (see, for example, Fig. 9, along with the description of "TimeTaken" in the table of column 13; the tasks of *Blowers et al.* include such categories as acquisition, control-flow, and image data manipulation); and displaying information indicating the amount of time that elapses during said executing the image processing algorithm for each of the plurality of image processing categories (see "Time Taken" for various categories illustrated in Fig. 9). *Blowers et al.* fail to expressly disclose determining average amounts of time. However, as described above, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to modify the method of *Blowers et al.* to include determining an average amount of time required to execute an image processing algorithm by using a plurality of input images as per the teachings of *Pizano et al.* One would be motivated to do so

to be able to benchmark an image processing system and produce a meaningful estimate of system capabilities.

As per claim 36, Blowers et al. further disclose determining memory requirements for the image processing functions (see, for example, the description of “GetMemorySize” in the table of column 13) but fail to expressly disclose displaying this information. However, Official Notice is taken that it has been known to provide a display of memory usage statistics as part of a performance monitoring system. Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to further modify the method of *Blowers et al.* to include displaying memory requirements for the image processing functions. One would be motivated to do so to provide useful resource information and indicate resource bottlenecks.

As per claim 37, Blowers et al. further disclose generating a graphical data flow diagram that implements the image processing algorithm (see, for example, Fig. 6 and column 8, lines 61-67). Therefore, for reasons stated above, such a claim also would have been obvious.

As per claims 38-40, Blowers et al. further disclose displaying information indicating suggested changes to the image processing algorithm in order to reduce the execution time of the image processing algorithm; receiving user input requesting the suggested changes to be made automatically; and programmatically making the indicated changes to the image processing algorithm by changing parameter values associated with image processing functions (see, for example, the “Stop Result By” and “Stop Result Count” fields in the “Blob Properties” dialog box of Fig. 7). Therefore, for reasons stated above, such claims also would have been obvious.

18. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blowers et al. in view of Pizano et al. as applied to claim 30 above, and further in view of U.S. Patent No. 5,748,878 to Rees et al.

As per claim 31, Blowers et al. discloses displaying time information in a structured display (see the disclosure applied above to claim 30) but fail to expressly disclose receiving a user input to sort the time information. However, Rees et al. teach a function performance structured display comprising time information corresponding to a plurality of execution iterations, wherein the structured display further comprises a "Sort_" menu item (see Fig. 9). Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to further modify the method of Blowers et al. to include a structured display with user-selectable sort capabilities as per the teachings of Rees et al. One would be motivated to do so to gain the advantage of allowing the user to customize a structure data display to suit his or her needs or preferences.

19. Claims 32 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blowers et al. in view of Pizano et al. as applied to claim 27 above, and further in view of "Solaris User's Guide," 1995, Sun Microsystems, Inc. (hereinafter *SUG*).

As per claims 32 and 45 Blowers et al. in combination with Pizano et al. suggest such a method (see disclosure and teachings applied above to claims 27 and 41) but fail to expressly disclose displaying a clock icon, which visually indicates the time data. However, *SUG* teaches a Performance Meter window with a dial display for monitoring aspects of system performance

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(see pages 323-330). Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to further modify the method of Blowers et al. to include such a display for visually indicating the time data. One would be motivated to do so enhance the aesthetic qualities of a performance display.

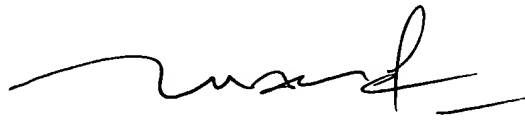
Conclusion

20. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Eric B. Kiss whose telephone number is (703) 305-7737. The Examiner can normally be reached on Tue. - Fri., 7:30 am - 5:00 pm. The Examiner can also be reached on alternate Mondays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Tuan Dam, can be reached on (703) 305-4552. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

EBK
December 11, 2003



TUAN DAM
SUPERVISORY PATENT EXAMINER